CLAIMS

1. (currently amended) An active circuit for being coupled to a reactive circuit that provides an output voltage, comprising:

a control regulator circuit having an output for providing pulses;

a first switch that has an input coupled to the output of the ~~controlled~~ control regulator curcuit, a power supply input coupled to a power supply terminal, and an output that is an output of the active circuit;

a pulse shaper having an input coupled to the control regulator circuit and an output;

a reference voltage generator for providing a reference voltage that changes in response to changes in a voltage at the power supply terminal; and

an integrator having a first input coupled to the output of the pulse shaper, a second input for receiving the reference voltage, and an output for providing a signal indicative of a current level supplied at the output voltage.

2. (original) The active circuit of claim 1, further comprising a Schmitt Trigger having an input coupled to the output of the integrator and an output.

3. (original) The active circuit of claim 1, wherein the reference voltage generator is responsive to a first programming signal in addition to being responsive to the voltage at the power supply terminal.

4. (original) The active circuit of claim 3, wherein the reference voltage generator is responsive to a second programming signal.

5. (original) The active circuit of claim 3, wherein the first programming signal is representative of the output voltage.

6. (currently amended) ~~The~~ An active circuit ~~of claim 5,~~ for being coupled to a reactive circuit that provides an output voltage, comprising:

a control regulator circuit having an output for providing pulses;

a first switch that has an input coupled to the output of the ~~controlled~~ control regulator curcuit, a power supply input coupled to a power supply terminal, and an output that is an output of the active circuit;

a pulse shaper having an input coupled to the control regulator circuit and an output;

a reference voltage generator for providing a reference voltage that changes in response to changes in a voltage at the power supply terminal; and

an integrator having a first input coupled to the output of the pulse shaper, a second input for receiving the reference voltage, and an output for providing a signal indicative of a current level supplied at the output voltage, wherein;

the reference voltage generator is responsive to a first programming signal in addition to being responsive to the voltage at the power supply terminal;

the first programming signal is representative of the output voltage; and

the first programming signal is the output voltage.

7. (original) The active circuit of claim 1 further comprising a crowbar switch coupled to the control regulator circuit and a crowbar comparator coupled to the crowbar switch.

8. (original) The active circuit of claim 1, wherein the pulse shaper comprises:

a first transistor having a control electrode coupled to the output of the control regulator circuit, a first current electrode coupled to the output of the first switch, and a second current electrode; and

a first resistor having a first terminal coupled to the second current electrode of the first transistor and a second terminal coupled to the power supply terminal.

9. (original) The active circuit of claim 1, wherein the integrator comprises:

a voltage-to-current converter having a first input coupled to the output of the pulse shaper, a second input to the output of the reference voltage generator, and an output; and

a capacitor coupled to the output of the voltage-to-current converter.

10. (original) The active circuit of claim 1, wherein the first switch comprises an N channel transistor.

11. (original) A method of operating an active circuit as a portion of a switching regulator, comprising:

providing current pulses of a first type based on a supply voltage for use in providing an output voltage;

providing voltage pulses representative of the shape of the first type of current pulses;

providing a reference voltage that is related to the supply voltage and an indication of the output voltage;

generating current pulses of a second type based on a comparison of the reference voltage and the voltage pulses; and

integrating the current pulses of the second type to generate a signal indicative of a current level supplied at the output voltage.

12. (original) The method of claim 11, wherein the integrating is performed by a capacitor from which current is removed and into which current is supplied during the integrating.

13. (original) An active circuit, comprising:

pulse means for generating current pulses from a supply voltage for use in providing a DC output voltage;

replication means, coupled to the pulse means, for generating pulses representative of the current pulses;

reference means for providing a reference voltage based on information as to the DC output voltage and the supply voltage;

comparator means, coupled to the replication means and the reference means, for generating current pulses, wherein each pulse has an amount of charge related to the reference voltage; and

a capacitor for receiving the current pulses.

14. (original) The active circuit of claim 13, further comprising a Schmitt Trigger coupled to the capacitor.

15. (original) The active circuit of claim 13, wherein the information as to the DC output voltage is a first programming signal.

16. (original) The active circuit of claim 15, wherein the reference means is responsive to a second programming signal.

17. (currently amended) ~~The~~ An active circuit ~~of claim 13~~, comprising:

pulse means for generating current pulses from a supply voltage for use in providing a DC output voltage;

replication means, coupled to the pulse means, for generating pulses representative of the current pulses;

reference means for providing a reference voltage based on information as to the DC output voltage and the supply voltage;

comparator means, coupled to the replication means and the reference means, for generating current pulses, wherein each pulse has an amount of charge related to the reference voltage; and

a capacitor for receiving the current pulses;

wherein the information as to the DC output voltage is the DC output voltage.

18. (original) The active circuit of claim 13 further comprising a crowbar switch coupled to the pulse means and a crowbar comparator coupled to the crowbar switch.

19. (original) The active circuit of claim 13, wherein the replication means comprises:

a transistor coupled to the pulse means; and

resistor means for being coupled between the transistor and the supply voltage.

20. (original) The active circuit of claim 13, wherein the reference means comprises three current sources and a resistor.